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10/501,225	02/04/2005	Joannes Leonard Linden	310.1040	3797

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EXAMINER
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LIGHTFOOT, ELENA TSOY

ART UNIT	PAPER NUMBER
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1715

NOTIFICATION DATE	DELIVERY MODE
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09/29/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

info@lmiplaw.com

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***Advisory Action***

The Request for Reconsideration filed on September 16, 2010 under 37 CFR 1.116 in reply to the final rejection has been considered but is not deemed to place the application in condition for allowance for the reasons of record set forth in the Final Office Action mailed on June 16, 2010.

***Response to Arguments***

Applicant's arguments filed September 16, 2010 have been fully considered but they are not persuasive.

(A) Applicants traverse the rejection of claims 1, 3-5, 8-10, 12, 17-22 and 34-35 over Yamada in view of Saito and further in view of Otto. As previously submitted, the presently claimed invention is directed to a method for applying a hybrid coating to a substrate. The combination of the teachings of Yamada and Saito has been previously addressed. The Examiner is now making the claims that the disclosure of Otto should be read in light of the reference Kersten et al. (hereinafter "Kersten") disclosed therein (e.g., col. 2, lines 46-49). Kersten describes a method for coating with a pulsed plasma. However, as also recognized by Otto, Kersten discloses that this process functions at temperatures of 850<sup>0</sup> C and higher. According to Otto "even substrates which are not stable to temperature can be deposited during a pulse of high power because a pulse interval follows each power pulse" (e.g., col. 2, lines 52-56). Thus, Otto concludes that high coating rates are possible without significant temperature loading of the substrate. However, it should be noted that such a "cooling" had not been envisaged by Kersten (see Figure 14), since the substrate to be coated is contained within the coating apparatus which is surrounded by a furnace providing for high temperatures within the device. Thus, it is not clear how Otto could arrive at the conclusion, starting from the device described in Kersten, that cooling of the coating temperature can be achieved by prolonging the pulse interval time. Further, for the reasons set forth below, prolonging the interval time has only minimal effects on the temperature of the substrate. For example, if a high electron density plasma, needed to produce the vapor to be deposited on the substrate and containing an inorganic compound, is used, it would be very impractical, if not impossible, to sufficiently cool the substrate between the pulses of the plasma. Thus, it is submitted that Kersten, even if interpreted in light of Otto, cannot remedy the shortcomings mentioned with regard of the combination of Yamada with Saito. Accordingly, it is respectfully submitted that the pending claims are all patentable over the combination of the four references, because, for the reasons set forth above, it would not have rendered obvious the claimed subject matter.

The Examiner respectfully disagrees with this argument. First, since Applicants did not submit Fig. 14 of Kersten, the Examiner cannot confirm Applicants' statement. However, it is

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not required for inventors to present every feature in illustrating figures or figures may show some of alternative embodiments, for example, CVD coating of heat resistant substrates. Other embodiments such as CVD coating of heat-sensitive substrates may be mentioned in the text.

Second, Otto teaches *expressly* that pulsed plasma can be used for depositing coatings on substrates that are not stable to temperature. Since Otto is an **expert** in plasma CVD coating art, one of ordinary skill in the art would have reasonable expectation of success in pulsed plasma can be used for depositing coatings on substrates that are not stable to temperature.

Besides, as evidenced by US 6465057 to Nakahigashi et al, coating heat-sensitive substrates such as organic thermosetting resin, thermoplastic resin, rubber, paper, wood or the like (See column 7, lines 1-5) at low temperature such as **25<sup>0</sup>C** (See column 14, line 58) using **pulsed** plasma assisted CVD (See column 4, lines 35-43; column 12, lines 7-17) is known in the art.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELENA Tsoy LIGHTFOOT whose telephone number is (571)272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy Lightfoot, Ph.D.  
Primary Examiner  
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September 24, 2010

/Elena Tsoy Lightfoot/